6672/PCT/tat "PATENT APPLICATION"

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Before the Board of Patent Appeals and Interferences

In re Application of

MAURO GELLI ET AL

U.S. Serial No. 10/566,629 Group Art Unit 1791

Filed: March 9, 2006 B. Musser, Examiner

METHOD AND DEVICE TO PRODUCE AN EMBOSSED AND PRINTED PRODUCT AND PRODUCT THEREBY OBTAINED

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Alexandria, Virginia
October 18, 2010

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

BRIEF ON APPEAL

Dear Sir:

This appeal is from the action of the Primary Examiner mailed December 17, 2009 rejecting claims 44-45, 51-62, 64 and 91.

Applicants' brief fee of $540 is being submitted herewith. The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 02-3690 of the undersigned attorney.

Real Party In Interest

The named inventors of the captioned application have assigned their entire rights to Fabio Perini S.p.A., a corporation organized under the laws of Italy located in Lucca, Italy. Fabio Perini S.p.A. is the real party in interest.

Related Appeals And Interferences

No appeal or interference is known to applicants which will directly affect or be directly affected by or have a bearing on the Board's decision in this pending appeal.

Status Of Claims

The pending claims in the application are claims 44-45, 51-62, 64 and 91. Claims 44 and 91 are the pending independent claims. Claims 44-45, 51-62, 64 and 91 are rejected. Claims 1-43, 46-50, 63 and 65-90 have been canceled. Accordingly, the appealed claims are claims 44-45, 51-62, 64 and 91 as set forth in the Claims Appendix attached hereto.

Status Of Amendments

After the filing of a request for continued examination, a non-final official action was mailed December 17, 2009 rejecting all claims 44-45, 51-62, 64 and 91. No response was filed to the non-final official action mailed December 17, 2009.

Summary Of Claimed Subject Matter

Independent claims 44 and 91 are set forth below with reference to pages and line numbers of the specification.

Claim 44 claims a method to produce an embossed web material (page 1, lines 5-6; page 3, lines 14-15), comprising at least two plies coupled to each other by gluing (page 3, lines 15-16), including the following steps: embossing a first ply to produce thereon a first series of protuberances forming an embossed background pattern (page 3, lines 26-28); applying ink to at least some of the protuberances of said first series to form a colored pattern (page 4, line 1); subsequently further embossing said first ply to produce thereon a second series of protuberances of a greater height and lesser density with respect to the protuberances of the first series and defining a decorative

motif (page 3, lines 28-31); applying a glue to at least some of the protuberances of said second series of protuberances (page 3, lines 33-34); making a second ply adhere to the first ply by means of said glue (page 3, line 34).

Claim 91 claims a method to produce an embossed web material (page 1, lines 5-6; page 3, lines 14-15), comprising at least two plies coupled to each other by gluing (page 3, lines 15-16), including the following steps: embossing a first ply to produce thereon a first series of protuberances forming an embossed background pattern (page 3, lines 26-28); applying ink to at least some of the protuberances of said first series to form a colored pattern (page 4, line 1); subsequently further embossing said first ply to produce thereon a second series of protuberances of a greater height and lesser density with respect to the protuberances of the first series and defining a decorative motif (page 3, lines 28-31); applying a glue to at least some of the protuberances of said second series of protuberances (page 3, lines 33-34); making a second ply adhere to the first ply by means of said glue (page 3, line 34); wherein the protuberances of the first series have an average density ranging from 20 to 100 protuberances/cm^2

(page 4, lines 19-22); and wherein said glue is colored (page 5, lines 1-2).

Ground Of Rejection To Be Reviewed On Appeal

The sole ground of rejection to be reviewed in the present appeal is:

(1) Claims 44-45, 51-62, 64, and 91 under 35 U.S.C. §103(a) over International Publication No. WO 99/44814 (Biagiotti) in view of U.S. Patent No. 5,339,730 (Ruppel).

Argument

The pending claims are directed to a method to produce an embossed web material having at least two plies coupled to each other by gluing. The method includes embossing a first ply to produce thereon a first series of protuberances forming an embossed background pattern. Ink is applied to at least some of the protuberances of the first series to form a colored pattern. Subsequently, the first ply is further embossed to produce thereon a second series of protuberances of a greater height and lesser density with respect to the protuberances of the first series. The second set of protuberances define a decorative

motif. Glue is applied to at least some of the protuberances of the second series of protuberances. The second ply adheres to the first ply by the glue.

I. Rejection Of Claims 44-45, 51-62, 64 And 91 Under 35 U.S.C. §103(a) Over Biagiotti In View Of Ruppel

Claims 44-45, 51-62, 64 and 91 are patentable over Biagiotti in view of Ruppel. Biagiotti in combination with Ruppel does not disclose or suggest applicants' method as claimed as set forth hereafter.

A. The Biagiotti Reference

Biagiotti discloses a device and method of embossing layers of web material to produce a multi-ply web material product. Biagiotti describes various embossment sequences for first and second plies or first, second and third plies, the application of glue thereto, and lamination of the plies based on the applied glue migrating through the multiple plies. Biagiotti provides no disclosure regarding applying an ink. Rather, Biagiotti only concerns embossing and gluing of multiple plies. If color is desired, color is taught as being added to the glue and, thus, color is

provided throughout the laminated plies the same as the glue.

B. The Ruppel Reference

Ruppel discloses a method for printing and embossing papers sheets having two or more plies. More particularly, Ruppel discloses a method of printing a paper sheet by applying ink on protrusions generated in embossing a ply used to make the sheet. A first ply and a second ply are each embossed. Printing is performed on an inner side of one ply and gluing is performed on the other ply. The two plies are then joined together to provide a sheet so that the print pigments are located on the inner side of the sheet between the two plies. The plies are joined tip-to-tip or by nesting.

C. The Section 103 Rejection Is Not Supported By The References

1. Claims 44-45, 51-62, 64 And 91 Are Patentable Over The Cited References

Neither Biagiotti nor Ruppel teach or suggest combining double embossing, printing and gluing on the same ply. Further, Ruppel describes an arrangement wherein gluing and printing are performed on protrusions having

substantially the same density, since (as shown in Figure 2 for example), the printed protrusions 213 are nested within the glued protrusions 405. This means that printing will result in discrete areas of inked material, interlaced with embossed/glued areas.

Applicants' claimed method, conversely, provides a background pattern obtained by background-embossing combined with inking which is further subsequently combined with an embossing to produce a decorative motif based on a series of protuberances of a greater height and lesser density than of the protuberances providing the background pattern. The embossing protuberances of the decorative motif are thus provided on a printed background. In Ruppel, the non-printed embossed pattern is joined by nesting or tip-to-tip with the printed non-glued pattern due to the two patterns both having a simple geometric distribution of protrusions. Therefore, even upon combining Biagiotti and Ruppel, applicants' claimed method would not be achieved. Clearly, such a combination of art would not result in (1) a background pattern printed embossing and a decorative glued embossing pattern on a common ply, but rather on separate plies; or (2) a background printed embossing having a different protrusion density than a glued decorative

embossing, since the references each disclose printed or glued embossing protrusions having the same density.

Moreover, applicants submit that there is no suggestion in the applied art to combine Biagiotti and Ruppel. Biagiotti teaches embossing first and second webs, wherein the first web (V1, Figure 6, for example) is provided with glue on the protrusions thereof. Biagiotti also teaches embossing a second web V3 (embosser 305, 307). Ruppel teaches embossing a first web and applying glue to the first web and embossing and printing a second web. Based on the teachings of the two references, a combination thereof would result in printing the embossing protrusions of web V3 in Biagiotti since, following the teaching of Ruppel, glue is applied to one ply and ink is applied to the other ply.

Further, applicants submit that it would not be obvious to combine Biagiotti and Ruppel in a manner to provide applicant's claimed method since they are directed to different methods and in view of the specific teachings of Biagiotti and Ruppel. Particularly, Ruppel teaches gluing and printing on two separate plies rather than both on a single ply. The Examiner asserts that there are only two alternatives, i.e., to print and glue one and the same

ply, or to print one ply and glue the other ply. Applicants submit that this is not an applicable choice when the teachings of Ruppel as a whole are considered. No reason to modify Ruppel such that printing and gluing is performed on the same ply is taught or suggested as further described below.

Starting with the teachings of the primary reference, Biagiotti, one skilled in the art would not have any reason to consider Ruppel to obtain useful teaching therefrom which would provide applicants' claimed method. Applicants submit that the Examiner's approach is based on hindsight and looking at the teaching of prior art only to the extent necessary to build a bridge from Biagiotti to applicants' claimed method. The teachings of the prior art must be considered as a whole and not in isolation.

Ruppel addresses problems which are different from those addressed by the claimed method. See for example column 1, lines 10-21 of Ruppel, wherein a technique to which Ruppel wants to provide an improvement is that of a conventional printing process where printing takes place on the outside of a two-ply product by a printing system upstream or downstream of the embossing system. Ruppel states that this known technique has three drawbacks which

Ruppel seeks to address, i.e., (1) that the printing ink is located on the product's outside and thus will be in contact with the outside when in use; (2) it is impossible to synchronize embossing and printing; and (3) when printing before embossing, the former interacts with the latter resulting in the incurring of degraded definition.

Another known technique which Ruppel wants to improve upon (see column 1, lines 22-25) involves products of the nested type manufactured using gluing systems of an embossing unit where a dyeing glue is used. This technique according to Ruppel also suffers drawbacks (column 1, lines 26-33), i.e., (1) dependency of the printing pattern on the embossing pattern (i.e., the printing and embossing pattern are coincident); (2) dependency of the printing denseness on gluing; (3) and cost. In order to solve the above problems (see column 1, lines 36-45), Ruppel describes directly printing one ply on an embossing roller using one or more printing systems mounted on the embossing system and associating this printed ply with another embossed ply. Applicants note that Ruppel teaches expressly to print a first ply, emboss a second ply which must be different from the printed first ply; and then glue the two plies together. It is self-evident that what is suggested by the Examiner,

i.e., to combine Ruppel with Biagiotti but modifying the teaching of Ruppel such that printing and embossing are performed on the same ply in Biagiotti, is inconsistent with the teaching of Ruppel. Nothing is present in the teaching of either Biagiotti or Ruppel which would lead to changing the specific teaching of Ruppel by providing printing and gluing on the same ply, since this is the opposite of what Ruppel teaches. In particular, Ruppel does not teach or suggest to providing two different embossings on one ply for receiving application of printing and glue, respectively (see Figures 1 and 5, first ply V_1 having P_1 and P_2 with S and C, of the captioned application).

These teachings of Ruppel do not lead to modifying the teachings of Biagiotti to provide printing and gluing on the same ply. Nothing in Ruppel discloses or suggests that printing and gluing may occur on the same ply. As such, the teachings of Ruppel would not suggest to one skilled in the art to modify Biagiotti to provide printing and gluing on the same ply, but rather would still provide an embossed sheet with glue and printing on separate plies.

An additional problem addressed by Ruppel is, when printing before embossing, avoiding the degraded definition incurred when the printing and embossing interacts. If

printing and embossing are performed on the same ply, degradation is the consequence. Thus, the Examiner's assertion to modify the teaching of Ruppel to have printing and embossing on the same ply would be inconsistent with the teaching of Ruppel since it leads to a problem sought to be avoided. To avoid this degradation, further teaching is required and neither Biagiotti nor Ruppel provide such. Applicants' claimed method, however, does through the requirement of the second series of protuberances which have a greater height and lesser density as compared to the first series of protuberances on the same ply.

Ruppel also wants to solve the problem of synchronizing embossing and printing. This is achieved according to Ruppel in two different ways. First, in the case of tip-to-tip embossing, by printing the tips of one ply and gluing the tips of the other ply while the two plies are engaged on the two embossing cylinders. Since the two embossing cylinders are phased tip-to-tip, this will result in a synchronization between printing and embossing. Secondly, in the case of nested embossing, by printing the tips of a first ply and gluing the tips of the other ply while the two plies are engaged on the two embossing rollers, and then meshing the tips of one ply in the valleys

of the other ply, i.e., between the tips of the other ply. In both cases it is mandatory to apply glue on one ply and print on the other ply. A different approach would not work.

One skilled in the art would not have considered changing the teaching of Ruppel by combining printing and embossing on the same web, since this would be inconsistent with the need for synchronizing printing and embossing, an identified purpose in Ruppel. Thus, contrary to the Examiner's assertion, there are not two choices (i.e., to print and emboss the same ply or different plies) since changing from printing and gluing separate plies versus the same ply goes against the purposes sought to be achieved by Ruppel and, accordingly, are inconsistent with the teachings of Ruppel. In other words, the second choice is excluded by the teaching of Ruppel. Applicants submit that the teaching of Ruppel is inconsistent with the teaching of Biagiotti since Biagiotti's method and device would not allow a combined printing and embossing effect on a two-ply web in the manner described by Ruppel.

The object of the captioned application is to improve on the method described in Biagiotti (see page 3, lines 11-12). This is achieved by providing a background

embossing and a decorative embossing on the same ply; and printing the tips of the micro-embossing prior to performing the decorative-embossing. The purpose of this is to define a colored texture effect on the embossed ply (see the captioned application, page 3, lines 3-4). Only a small quantity of ink is required to obtain the effect of a substantially uniform coloring of the entire ply surface where printing occurs on at least some of the protuberances of the first series. Applicants submit that synchronization between printing and embossing is not required by the claimed method. The problem of synchronizing printing and embossing is not at issue with the claimed method. Avoiding deterioration of printing due to the superposition of printing and embossing is also not an issue with the claimed method. Applicants claimed method provides embossing performed on a printed area. Since these two main problems are what Ruppel addresses, one skilled in the art would not have considered Ruppel as a source of possible teaching to improve Biagiotti in order to solve the problem addressed by applicants' claimed method. As set forth above, the problems of synchronization and of avoiding deterioration of printing by superimposing thereon the embossing effect is solved by Ruppel by printing one ply and embossing another

separate ply, and additionally by printing and embossing the two different plies while the plies are engaged with two phased embossing rollers. These conditions are mandatory based on the teachings of Ruppel taken as a whole.

Such conditions are also inconsistent with the applicants' claimed method. The claimed method serves to provide a textile effect by coloring background embossing of a ply which is subsequently subjected to further embossing. This is achieved by an approach which is quite the opposite of the teaching of Ruppel, i.e., printing and embossing are performed on the same ply. Printing and embossing are not phased, but rather are performed in sequence on the same ply in a random manner.

According to Ruppel, following the technique described, "there is synchronization between the printing pattern and the embossing pattern procedures, making it possible, for instance, to emphasize an embossing pattern" (see column 2, lines 43-46). Further with regard to Ruppel, "the method of the invention results in improved independence of the print pattern from the embossing pattern and hence in the printing being independent from the glue sizing, so that the product's print intensity can be varied" (see column 2, lines 49-54). These results cannot be

achieved with Biagiotti; are not required, desired or achieved with applicants' invention as claimed; and are inconsistent with the modifications asserted by the Examiner, i.e., to print and emboss one and the same ply, thus departing from the teachings of Ruppel. As noted above, applicants provide a background coloring effect on a ply which is subsequently embossed. This is unrelated to the problems underlying the teachings of Ruppel and could not be achieved with the teachings of Ruppel.

Accordingly, independent claims 44 and 91 are novel and non-obvious over Biagiotti in combination with Ruppel. For the reasons set forth above, Biagiotti in combination with Ruppel does not disclose or suggest the inventions of dependent claims 45, 51-62, 64 and 91. Accordingly, applicants respectfully request reversal of the §103 rejection of claims 44-45, 51-62, 64 and 91.

2. Further Grounds That Claim 91 Is Patentable Over The Cited References

In addition to the reasons set forth above as to why independent claim 91 is not rendered obvious over the combination of Biagiotti and Ruppel, independent claim 91 also provides that the background pattern is a

micro-embossing pattern. This feature in combination with the other features described above is also not taught by the applied combination of Biagiotti and Ruppel. The object of applicant's claimed method is different from Ruppel wherein applicants' claimed method provides a micro-embossed colored pattern resulting in a novel effect of an embossed web material which appears to have a substantially uniform color on the entire surface thereof, with a textile texture. The teachings of Ruppel do not provide a method to achieve such structure. Ruppel teaches having a printed pattern which is identical to or complementary to that of the embossing pattern. This is necessary because the embossed and printed patterns are arranged either tip-to-tip or nested. The background micro-embossed printed pattern is combined with colored decorative motifs embossed afterwards. As set forth above in section C.1., Ruppel is directed to avoiding use of colored glue since the decorative pattern is to be independent of the glue. This can only be achieved if printing is not obtained by means of colored glue.

Thus, independent claim 91 contains a further limitation which is entirely inconsistent with Ruppel and, therefore, is not obvious from combining Ruppel and

Biagiotti. Accordingly, applicants respectfully request reversal of the §103 rejection of claim 91.

II. Supporting Law

The Supreme Court stated that "a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art." KSR Int'l Co. v. Teleflex Inc., 127 S.Ct. 1727, 1741, 82 USPQ2d 1385 (2007). "[I]t can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does." Id. In identifying a "reason," the Court cautioned that "the analysis need not seek out precise teachings [in the prior art] directed to the specific subject matter of the challenged claim." Id. Rather, courts must also "look to the interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art." KSR Int'l, 127 S.Ct. at 1740-41.

Ultimately, however, the analysis must be explicit. In fact, "'[r]ejections on obviousness cannot be

sustained by mere conclusory statements; instead there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.'" KSR Int'l, 127 S.Ct. at 1741, citing In re Kahn, 441 F.3d 977, 988; 78 USPQ2d 1329 (Fed. Cir. 2006).

Absent hindsight, there is nothing in the applied references of Biagiotti or Ruppel which would lead one skilled in the art at the time the invention was made to include printing and gluing on the same ply as set forth above.

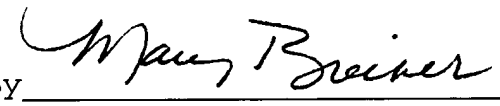
The particular differences as to what each of Biagiotti and Ruppel do not teach is germane to the rejection based on a combination of two references. These differences in teachings go to the teachings as a whole as well as the combination as a whole and whether one skilled in the art in view of the teachings as a whole would pick and choose select components from the applied art methods and combine them in such a way so as to obtain applicant's claimed method. The fact that an isolated element of the claimed method is known does not make it obvious to include it in any other method for producing an embossed web material. See KSR Int'l. Co., 127 S. Ct. 1727 above.

Conclusion

It is respectfully submitted that the appealed claims are patentable and are not rendered obvious within the meaning of 35 U.S.C. §103. Reversal of the Examiner's rejection is, therefore, respectfully urged.

Respectfully submitted,

MAURO GELLI ET AL

By 

Mary J. Breiner, Attorney
Registration No. 33,161
BREINER & BREINER, L.L.C.
P.O. Box 320160
Alexandria, Virginia 22320-0160

Telephone: (703) 684-6885

Attachments - Claims Appendix
- Evidence Appendix
- Related Proceedings Appendix
- $540 Appeal Brief Fee

The Appealed Claims:

44. A method to produce an embossed web material, comprising at least two plies coupled to each other by gluing, including the following steps: embossing a first ply to produce thereon a first series of protuberances forming an embossed background pattern; applying ink to at least some of the protuberances of said first series to form a colored pattern; subsequently further embossing said first ply to produce thereon a second series of protuberances of a greater height and lesser density with respect to the protuberances of the first series and defining a decorative motif; applying a glue to at least some of the protuberances of said second series of protuberances; making a second ply adhere to the first ply by means of said glue.

45. Method as claimed in claim 44, wherein said first ply is embossed between a pressure roller and an embossing roller provided with protuberances defining said decorative motif, and wherein said glue is applied to said first ply while the first ply is still in contact with said embossing roller.

51. Method as claimed in claim 44, wherein the protuberances of the first series have an average density ranging from 20 to 100 protuberances/cm^2.

52. Method as claimed in claim 44, wherein the protuberances of the first series occupy a percentage lower than 25% of total surface of the first ply.

53. Method as claimed in claim 44, wherein said glue is colored.

54. Method as claimed in claim 53, wherein said glue and said ink have different shades of a same color.

55. Method as claimed in claim 44, wherein said second ply is embossed with background embossing prior to coupling with the first ply.

56. Method as claimed in claim 55, wherein said background embossing of said second ply is provided by a third series of protuberances having an average density ranging from 20 to 100 protuberances/cm^2.

57. Method as claimed in claim 55, wherein the protuberances of said third series occupy a percentage below 25% of the total surface of the second ply.

58. Method as claimed in claim 44, wherein the decorative motif formed by the protuberances of the second series are distributed according to a density not exceeding 3 motifs/cm^2.

59. Method as claimed in claim 44, wherein said colored pattern is produced by printing the first ply.

60. Method as claimed in claim 59, wherein said first ply is micro-embossed after said colored pattern is applied.

61. Method as claimed in claim 44, wherein said embossed background pattern is distributed essentially uniformly over the entire surface of the ply.

62. Method as claimed in claim 44, wherein said colored pattern is constituted by stippling or by a series of lines.

64. Method as claimed in claim 44, wherein said colored pattern is phased with said decorative motif to form a composite printed and embossed pattern.

91. A method to produce an embossed web material, comprising at least two plies coupled to each other by gluing, including the following steps: embossing a first ply to produce thereon a first series of protuberances forming an embossed background pattern; applying ink to at least some of the protuberances of said first series to form a colored pattern; subsequently further embossing said first ply to produce thereon a second series of protuberances of a greater height and lesser density with respect to the protuberances of the first series and defining a decorative motif; applying a glue to at least some of the protuberances of said second series of protuberances; making a second ply

adhere to the first ply by means of said glue; wherein the protuberances of the first series have an average density ranging from 20 to 100 protuberances/cm^2; and wherein said glue is colored.

* * * * *

None.

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RELATED PROCEEDINGS APPENDIX

None.

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